

Treadwell Rollo

7CBS?

**Sampling Plan Summary
Former Paint Shop Varnish Plant
Mare Island Naval Shipyard
Vallejo, California**

- Obtain permits, notify tenants
- Excavate an L-shaped area (30 feet by 8 feet plus 8 feet by 7 feet) on the northeast side of the Former Paint Shop Varnish Plant (FPSVP) to a depth of 7 feet below ground surface (bgs). Target volume of soil to excavate is approximately 77 cubic yards. Dewatering will be performed as needed. Excavated soil will be stockpiled and sampled for appropriate off-site disposal.
- Collect 8 soil verification samples; 4 from base and 4 from sidewalls of excavation, and collect an additional 3 QA/QC samples. Analyze samples for lead and Total Petroleum Hydrocarbons (TPH) as gasoline, diesel and motor oil (diesel and motor oil with silica-gel cleanup). If verification samples indicate that remediation goals (see below) have not been met, additional excavation, stockpiling and sampling will be performed at LMI's direction.
- Once verification sample results indicate that remediation goals have been met, backfill the excavation with clean backfill material and restored to pre-existing condition.
- Prepare Implementation Report for approval by DTSC.

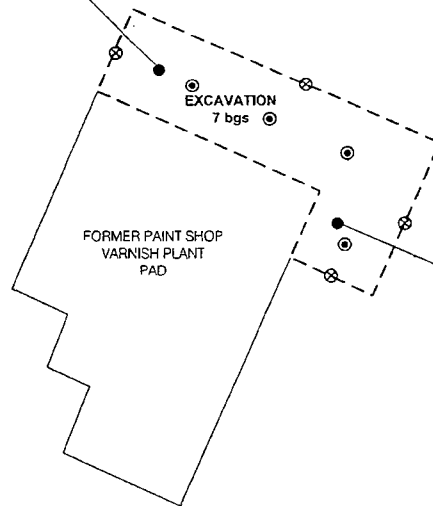
Cleanup Levels for Planned Commercial/Industrial Uses

Constituent	Depth	Average Cleanup Levels (mg/kg)	Maximum Cleanup Levels (mg/kg)
Lead	All	750	1,000
TPH-gasoline	0-10 feet bgs	1,168 ¹	500
TPH- diesel	0-10 feet bgs	1,168 ¹	1,000
TPH-motor oil	0-10 feet bgs	1,168 ¹	1,168

¹ = sum of all TPH concentrations

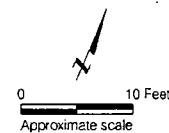
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PVPGB104 (02)
 2,500 mg/kg TPH-g, (1.5 feet bgs)
 1,800 mg/kg Lead, (1.5 feet bgs)
 7,300 mg/kg TPH-g, (3.5 feet bgs)
 1,900 mg/kg Lead, (3.5 feet bgs)



PVPGB101 (02)
 2,100 mg/kg Lead, (7.0 feet bgs)

- EXPLANATION**
- PVPGB101 (02)** ● Approximate location of previous soil sample collection with concentration and depth
 - ⊙ Excavation base verification sample
 - ⊗ Excavation sidewall verification sample
 - Approximate extent of proposed excavation by Treadwell & Rollo, Inc.
 - mg/kg Milligrams per kilogram



INVESTIGATION AREA C3 MARE ISLAND Vallejo, California		
REMEDIAL EXCAVATION - FORMER PAINT SHOP VARNISH PLANT		
Date 03/31/09	Project No. 4752.03	Figure 1
Treadwell & Rollo		

**Excavation and Sampling Plan Summary
Building 144 – Former Oil/Water Separator
Mare Island Naval Shipyard
Vallejo, California**

- Obtain permits, notify tenants
- Excavate an area (30 feet by 30 feet, less 20 feet by 20 feet western corner section) in the central part of Building 144 to a depth of 7 feet below ground surface. Target volume of soil to excavate is approximately 182 cubic yards. Excavated soil will be stockpiled and sampled for off-site disposal.
- Collect 12 verification samples; 4 from base and 8 from sidewalls of excavation, plus 4 QA/QC samples. Analyze samples for lead. If verification samples indicate that the remediation goal for lead (750 mg/kg) has not been met, additional excavation, stockpiling and sampling will be performed at LMI's direction.
- Once verification sample results indicate that remediation goals have been met, backfill the excavation with clean backfill material and restored to pre-existing condition.
- Prepare an Implementation Report for approval by DTSC.

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APPROXIMATE LOCATION OF
INDOOR STRUCTURE

B144GB102 (02)
1,500 mg/kg, (2.0 feet bgs)
1,300 mg/kg, (5.0 feet bgs)
930 mg/kg, (7.0 feet bgs)

B144GB101 (02)
1,100 mg/kg, (3.0 feet bgs)
1,100 mg/kg, (5.0 feet bgs)

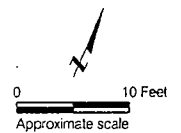
B144GB100 (02)
1,200 mg/kg, (2.5 feet bgs)
1,000 mg/kg, (5.0 feet bgs)

EXCAVATION
7 bgs

BUILDING 144

EXPLANATION

- B144GB100 (02)** ● Approximate location of previous soil sample collection with lead concentrations
- ⊙ Excavation base verification sample
- ⊗ Excavation sidewall verification sample
- - - - - Approximate extent of proposed excavation by Treadwell & Rollo, Inc.
- Approximate extent of indoor structure
- Approximate extent of Building 144
- mg/kg Milligrams per kilogram

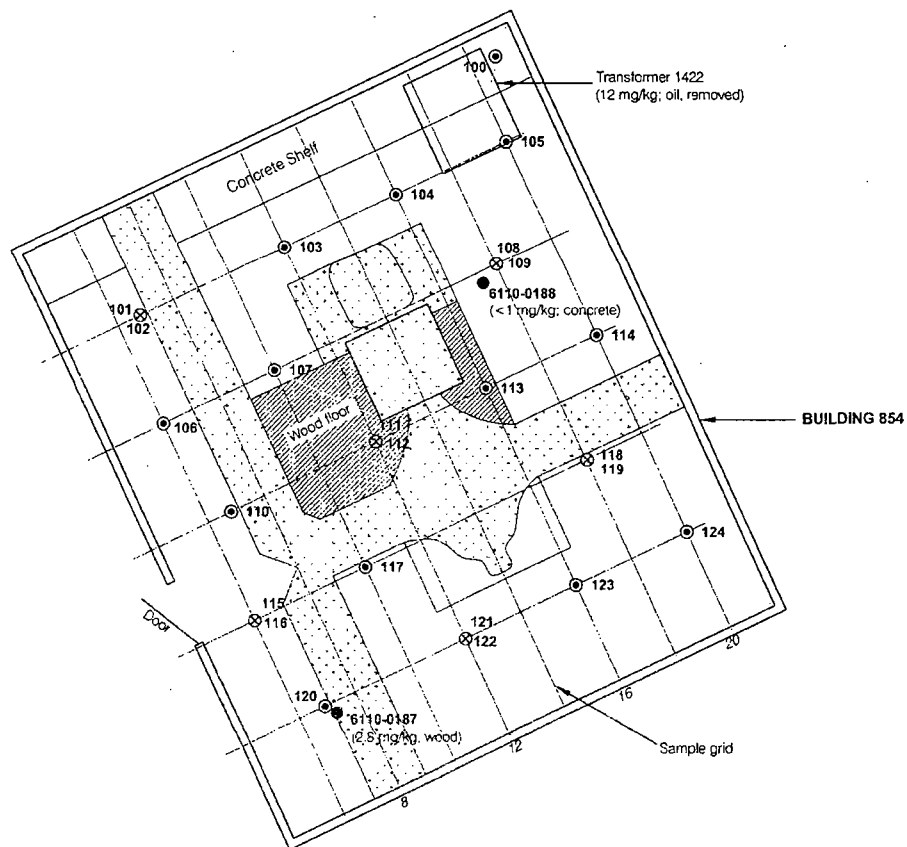


INVESTIGATION AREA C3 MARE ISLAND Vallejo, California		
REMEDIAL EXCAVATION - BUILDING 144 FORMER OIL WATER SEPARATOR		
Date 03/31/09	Project No. 4752.03	Figure 1
Treadwell & Rollo		

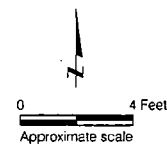
**Sampling Plan Summary
Building 854 PCB Site UL#01
Mare Island Naval Shipyard
Vallejo, California**

- Prepare Sampling and Analysis Plan for approval by USEPA and DTSC
- Obtain permits
- Lay out SAP-developed ~2-foot by ~4-foot grid of 19 sample locations.
- Remove localized areas of wood flooring to obtain samples at B854DR0111, B854DR112 and B854DR0113.
- At each location collect one concrete and one soil sample: 30-gram concrete sample will be collected using a drill and collecting powder generated; 40-gram soil sample will be collected from immediately beneath the floor by drive sampler or by trowel. Both samples at B854DR0100 on concrete shelf will be concrete. Samples will be analyzed for PCBs, with a laboratory reporting limit of 0.025 mg/kg. The remediation goal for PCB's is 0.74 mg/kg. Samples will be collected in the vicinity of the 3 historical samples, as shown on Figure 1.
- Prepare a Site Characterization Report for approval by USEPA and DTSC.
- Prepare a Scope of Work defining the recommended next phase of activities, based on the results of characterization sampling.

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- EXPLANATION**
- 6110-0187 (2.8 mg/kg; wood) ● Approximate location of previous sample with PCB concentration and medium
 - 101 ● Proposed primary sample location by Treadwell & Rollo, Inc.
 - 102 ⊗ Proposed primary and QA/QC sample location by Treadwell & Rollo, Inc.
 - 100 Abbreviated sample ID. Table 1 provides full sample ID.
 - Wood floor (shaded area)
 - Stationary equipment and piping (dotted area)
 - mg/kg Milligrams per kilogram



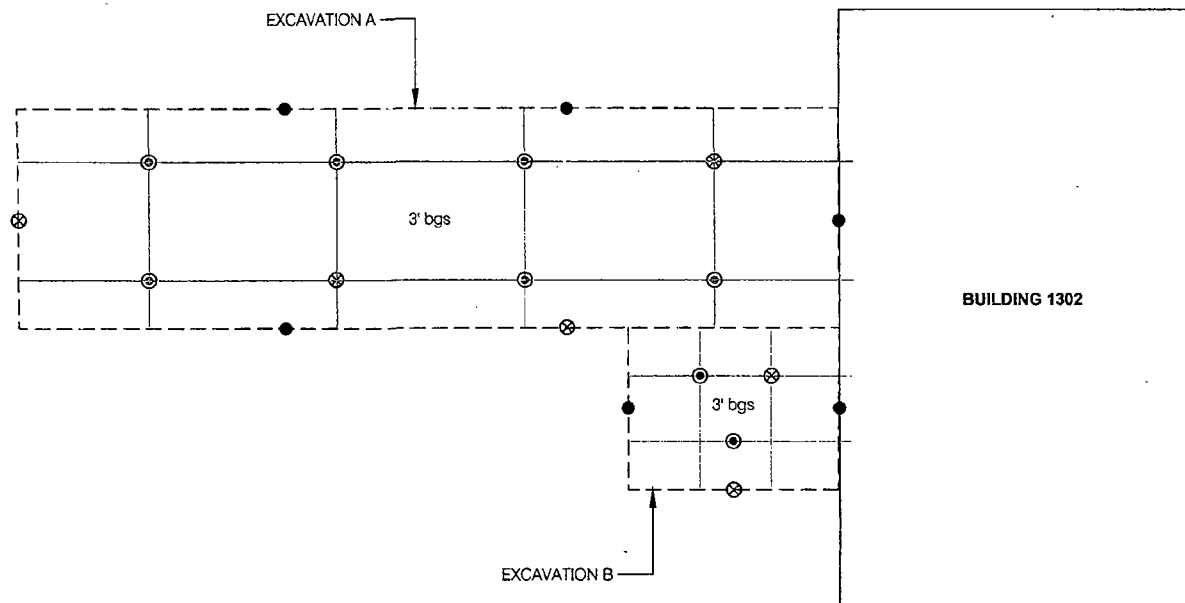
INVESTIGATION AREA C3 MARE ISLAND Vallejo, California		
PROPOSED SAMPLING LOCATIONS BUILDING 854 PCB SITE UL#01		
Date 03/31/09	Project No. 4752.03	Figure 1
Treadwell & Rollo		

**Excavation and Sampling Plan Summary
Building 1302 PCB Site UL#01
Mare Island Naval Shipyard
Vallejo, California**

- Obtain permits
- Excavate an L-shaped area 35 feet by 9 feet (Excavation A) and 9 feet by 7 feet (Excavation B) west of Building 1302 to a depth of 3 feet below the ground surface. Target volume of soil to excavate is approximately 42 cubic yards. Excavated soil will be stockpiled and sampled for off-site disposal.
- Collect 20 verification samples and an additional 6 QA/QC samples; 11 samples from the base and 9 samples from the sidewalls of the excavation. Analyze for PCBs with a laboratory reporting limit of 0.025 mg/kg. If verification samples indicate that the remediation goal for PCBs (less than or equal to 0.74 mg/kg) has not been met, additional excavation, stockpiling and sampling will be performed at LMI's direction.
- Once verification sample results indicate that remediation goals have been met, the excavation will be backfilled with clean backfill material and restored to pre-existing condition.
- Prepare a Remedial Action Summary Report for approval by USEPA and DTSC.
- Prepare a Closure Request for approval by USEPA and DTSC.

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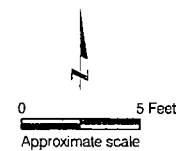
BUILDING WAYS 1



BUILDING WAY 2

EXPLANATION

- Proposed primary sample location in side wall of excavation by Treadwell & Rollo, Inc.
- ⊙ Proposed primary sample location by Treadwell & Rollo, Inc.
- ⊗ Proposed primary and QA/QC sample location by Treadwell & Rollo, Inc.



INVESTIGATION AREA C3
MARE ISLAND
Vallejo, California

EXCAVATION AND SAMPLING LOCATIONS
BUILDING 1302 PCB SITE UL#01

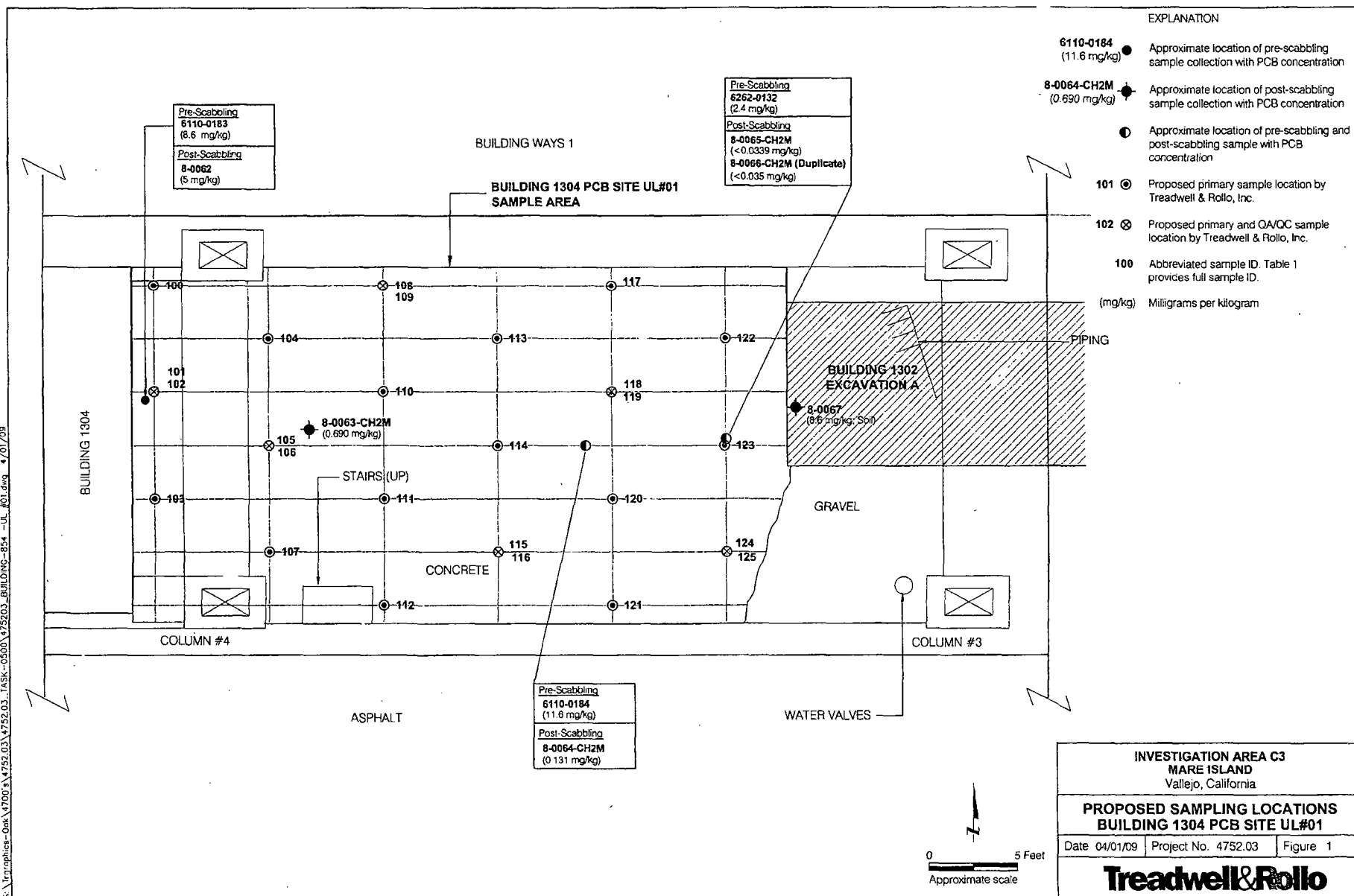
Date 04/01/09 Project No. 4752.03 Figure 1

Treadwell & Rollo

**Sampling Plan Summary
Building 1304 PCB Site UL#01
Mare Island Naval Shipyard
Vallejo, California**

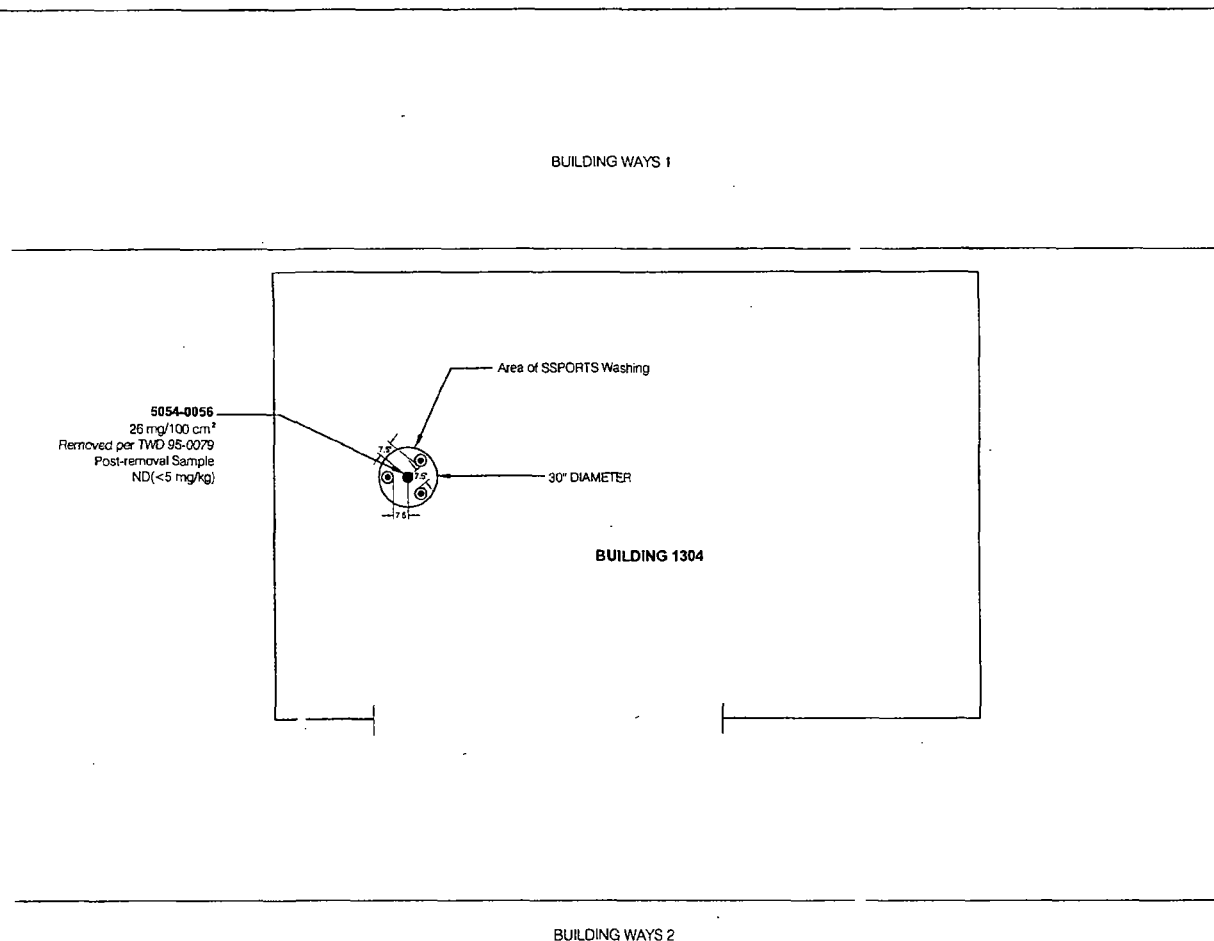
- Prepare Sampling and Analysis Plan for approval by USEPA and DTSC.
- Obtain permits.
- Lay out 3-foot by 6.5-foot grid of 20 sample locations in the concrete/asphalt surface east of Building 1304.
- At each location collect one concrete/asphalt sample and one soil sample: 30-gram concrete/asphalt sample will be collected using a drill and collecting powder generated; 40-gram soil sample will be collected from immediately beneath the pavement by drive sampler or by trowel. Samples will be analyzed for PCBs, with a laboratory reporting limit of 0.025 mg/kg. The remediation goal for PCB's is 0.74 mg/kg.
- Prepare a Site Characterization Report for approval by USEPA and DTSC.
- Prepare a Scope of Work defining the recommended next phase of activities, based on the results of characterization sampling.

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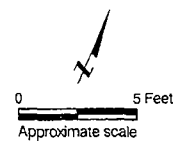
**Sampling Plan Summary
Building 1304 PCB Site UL#02
Mare Island Naval Shipyard
Vallejo, California**

- Obtain permits.
- Lay out 4 sample locations as shown on Figure 1.
- At each location collect one concrete and one soil sample: 30-gram concrete sample will be collected using a drill and collecting powder generated; 40-gram soil sample will be collected from immediately beneath the floor by drive sampler or by trowel. Samples will be analyzed for PCBs, with a laboratory reporting limit of 0.025 mg/kg. The remediation goal for PCB's is 0.74 mg/kg.
- Prepare a Scope of Work defining the recommended next phase of activities, based on the results of characterization sampling.



EXPLANATION

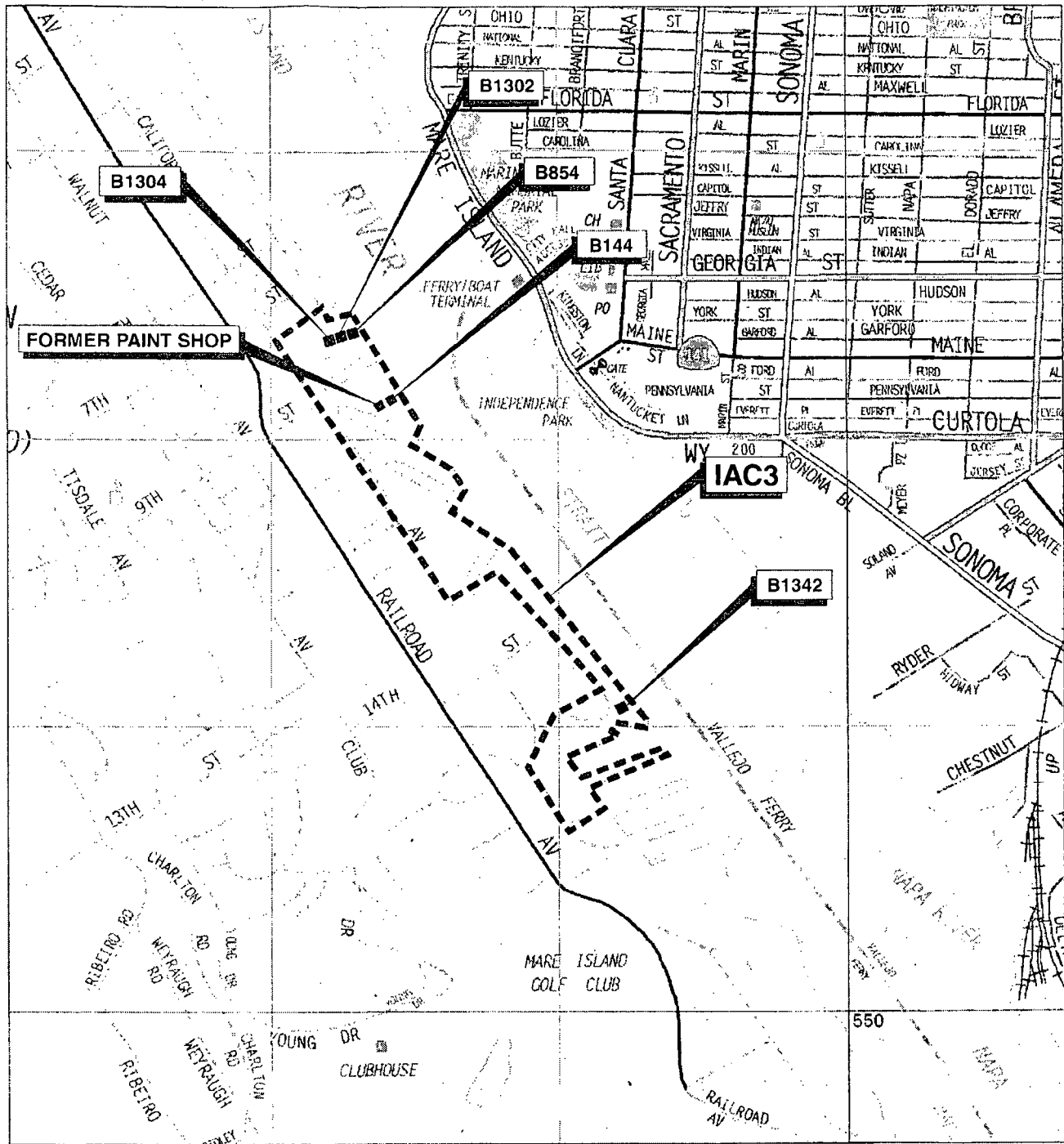
- ⑥ Approximate location of proposed sample location by Treadwell & Rollo, Inc.
- 5054-0056 ● Approximate location of previous sample collection with PCB concentration. One sample will be collected from this location



INVESTIGATION AREA C3 MARE ISLAND Vallejo, California		
PROPOSED SAMPLING LOCATIONS BUILDING 1304 PCB SITE UL#02		
Date 04/01/09	Project No. 4752.03	Figure 1
Treadwell&Rollo		

**Sampling Plan Summary
Building 1342 PCB Site UL#01
Mare Island Naval Shipyard
Vallejo, California**

- Prepare Sampling and Analysis Plan for approval by USEPA and DTSC
- Obtain permits
- Lay out SAP-developed ~7.5-foot by ~9-foot grid of 20 sample locations.
- At each location collect one concrete and one soil sample: 30-gram concrete sample will be collected using a drill and collecting powder generated; 40-gram soil sample will be collected from immediately beneath the concrete by drive sampler or by trowel. Samples will be analyzed for PCBs, with a laboratory reporting limit of 0.025 mg/kg. The remediation goal for PCB's is 0.74 mg/kg. Samples will be collected in the vicinity of the historical sample with the highest concentration, as shown on Figure 1.
- Prepare a Site Characterization Report for approval by USEPA and DTSC.
- Prepare a Scope of Work defining the recommended next phase of activities, based on the results of characterization sampling.



Base map: The Thomas Guide
Solano County
1999

0 1/4 1/2 Mile

Approximate scale

INVESTIGATION AREA C3
MARE ISLAND
Vallejo, California

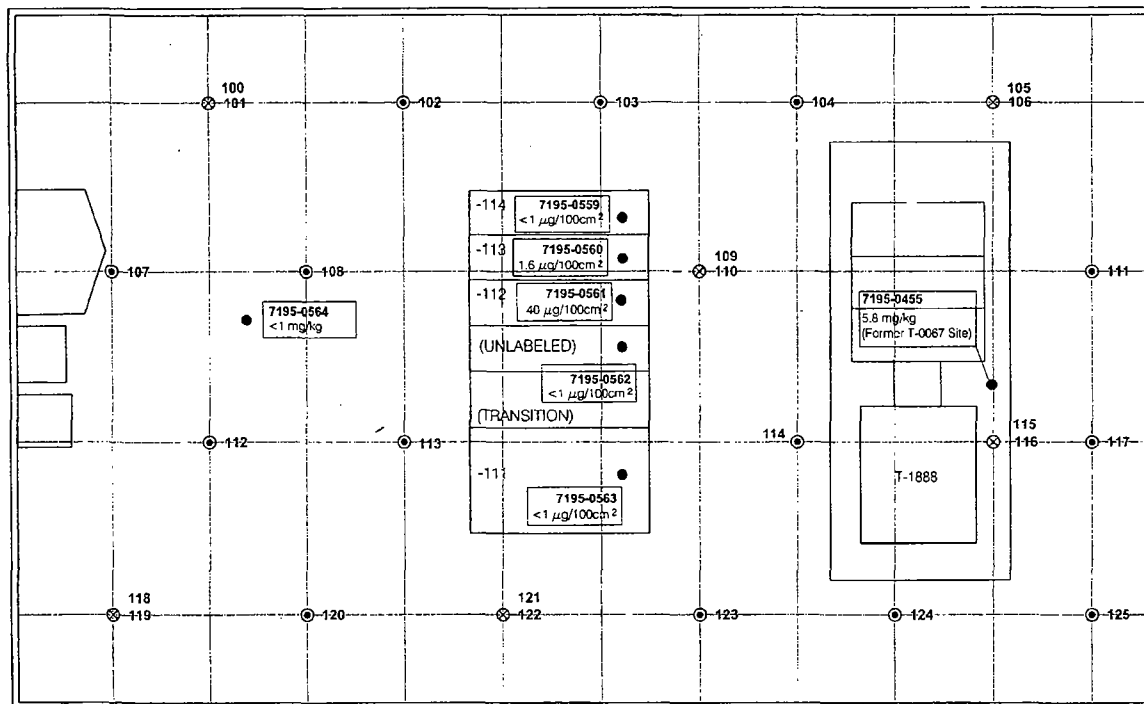
SITE LOCATIONS

Treadwell&Rollo

Date 04/01/09

Project No. 4752.03

Figure 1



EXPLANATION

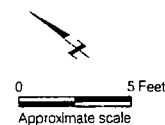
- 7195-0564 • Approximate location of previous sample collection with PCB concentration <1 mg/kg
- 102 • Proposed primary sample location by Treadwell & Rollo, Inc.
- 101 • Proposed primary and QA/QC sample location by Treadwell & Rollo, Inc.
- 100 Abbreviated sample ID. Table 1 provides Full Sample ID
- µg/100cm² Micrograms per square centimeter
- mg/kg Milligrams per kilogram

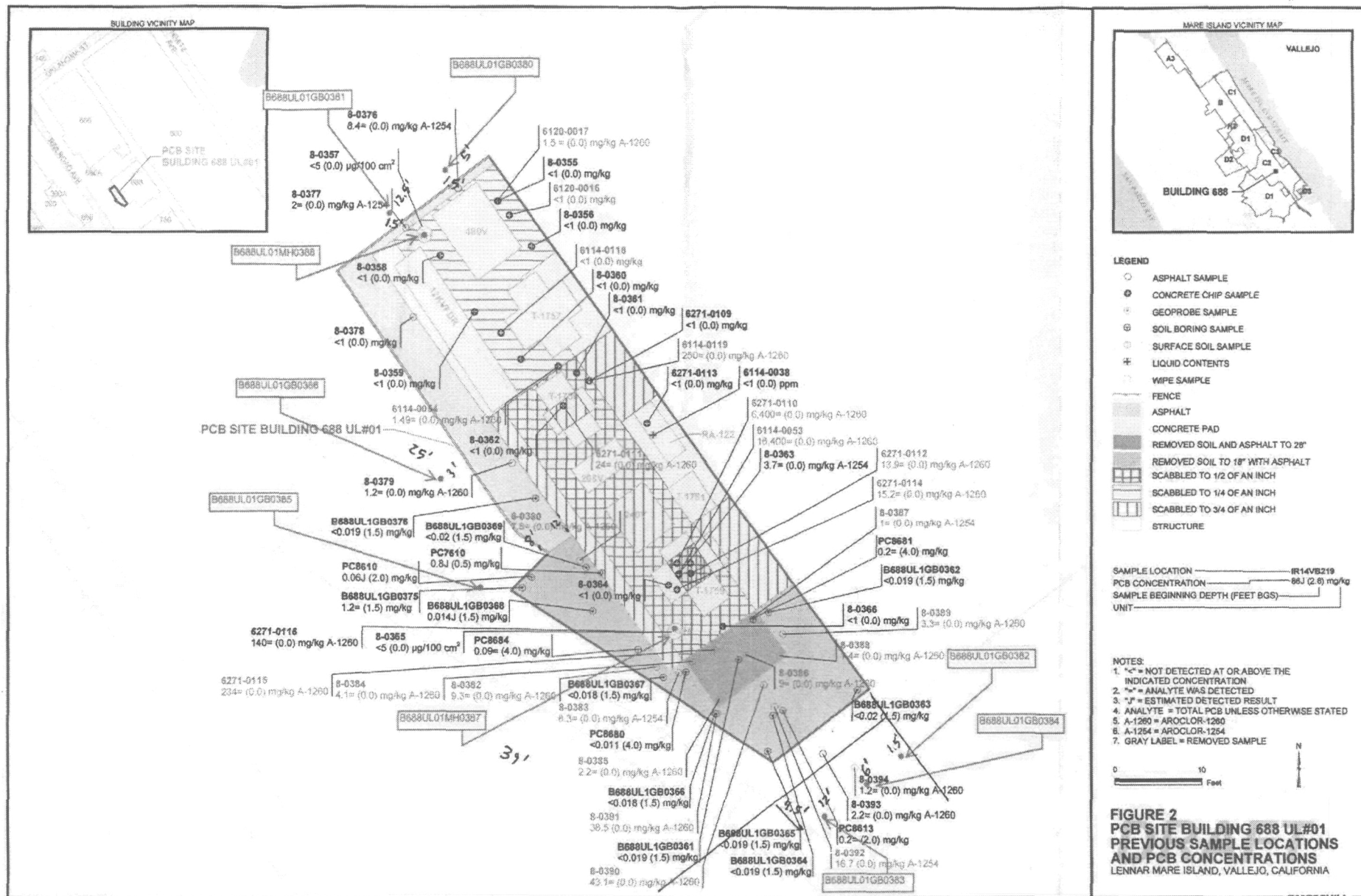
INVESTIGATION AREA C3
MARE ISLAND
Vallejo, California

PROPOSED SAMPLE LOCATIONS BUILDING B1342 UL#01

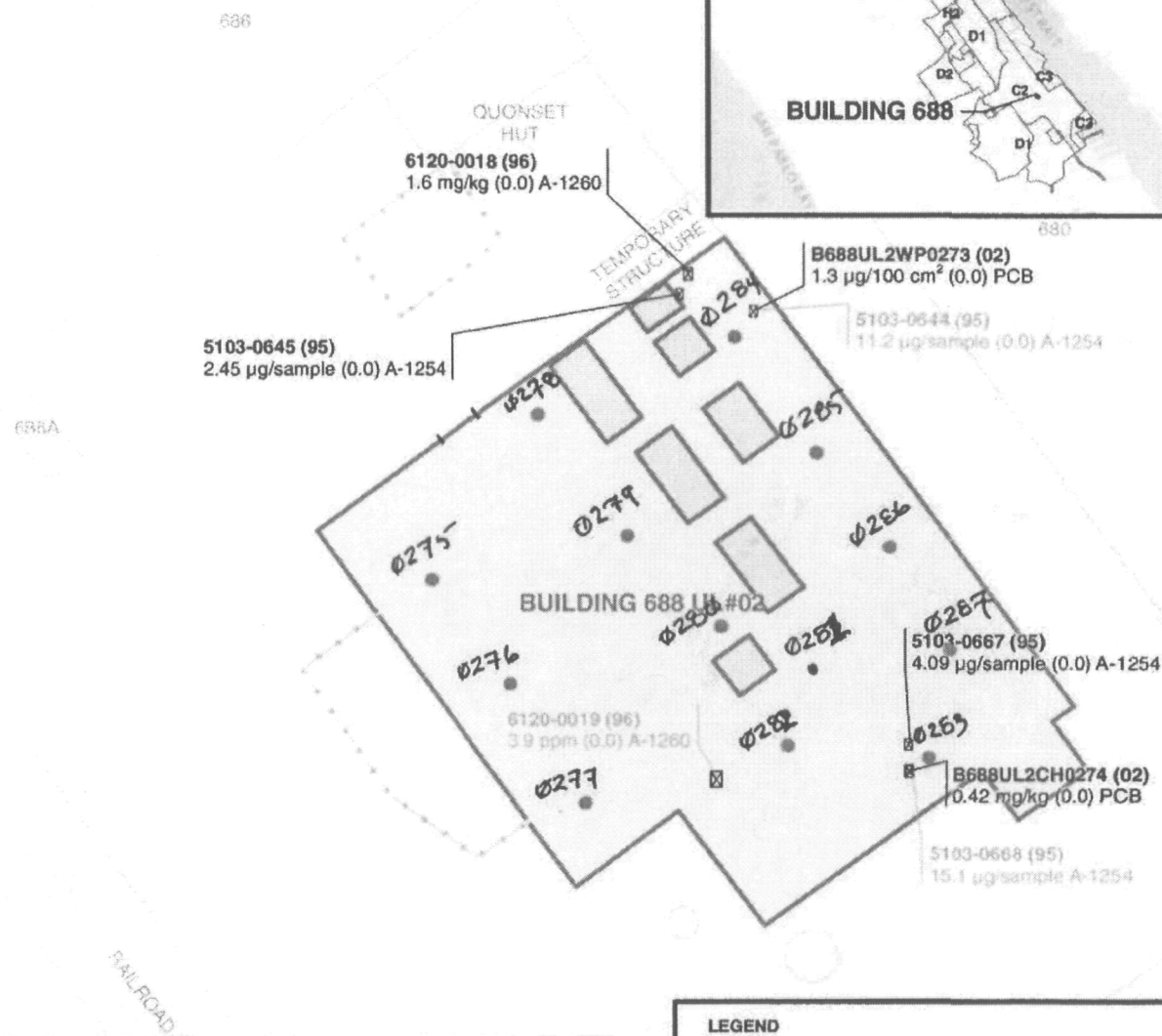
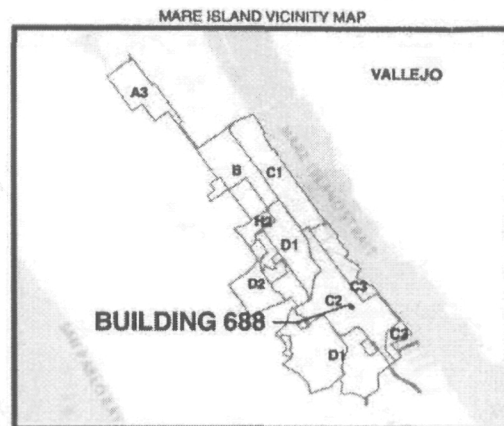
Date 03/31/09 Project No. 4752.03 Figure 1

Treadwell & Rollo





UNKNOWN SAMPLE LOCATIONS	
CONCRETE CHIP SAMPLE	PCB CONCENTRATION
6120-0017	1.5 mg/kg



SAMPLE LOCATION ID _____ 5103-0644 (95)
ANALYTICAL RESULT _____ 11.2 µg/100 cm² (0.0) PCB
UNIT _____
SAMPLE BEGINNING DEPTH (FEET BGS) _____
ANALYTE ABBREVIATION _____
SAMPLE COLLECTION YEAR _____

- NOTES:
1. PCB SAMPLE LOCATIONS SHOWN ARE APPROXIMATE
 2. µg/100 cm² = MICROGRAMS PER 100 CENTIMETERS SQUARED
 3. mg/kg = MILLIGRAMS PER KILOGRAM
 4. ppm = PARTS PER MILLION
 5. GRAY LABEL = REMOVED SAMPLE LOCATION
 6. ANALYTE ABBREVIATION
A-1254 = AROCLOR-1254
A-1260 = AROCLOR-1260
PCB = TOTAL PCBs

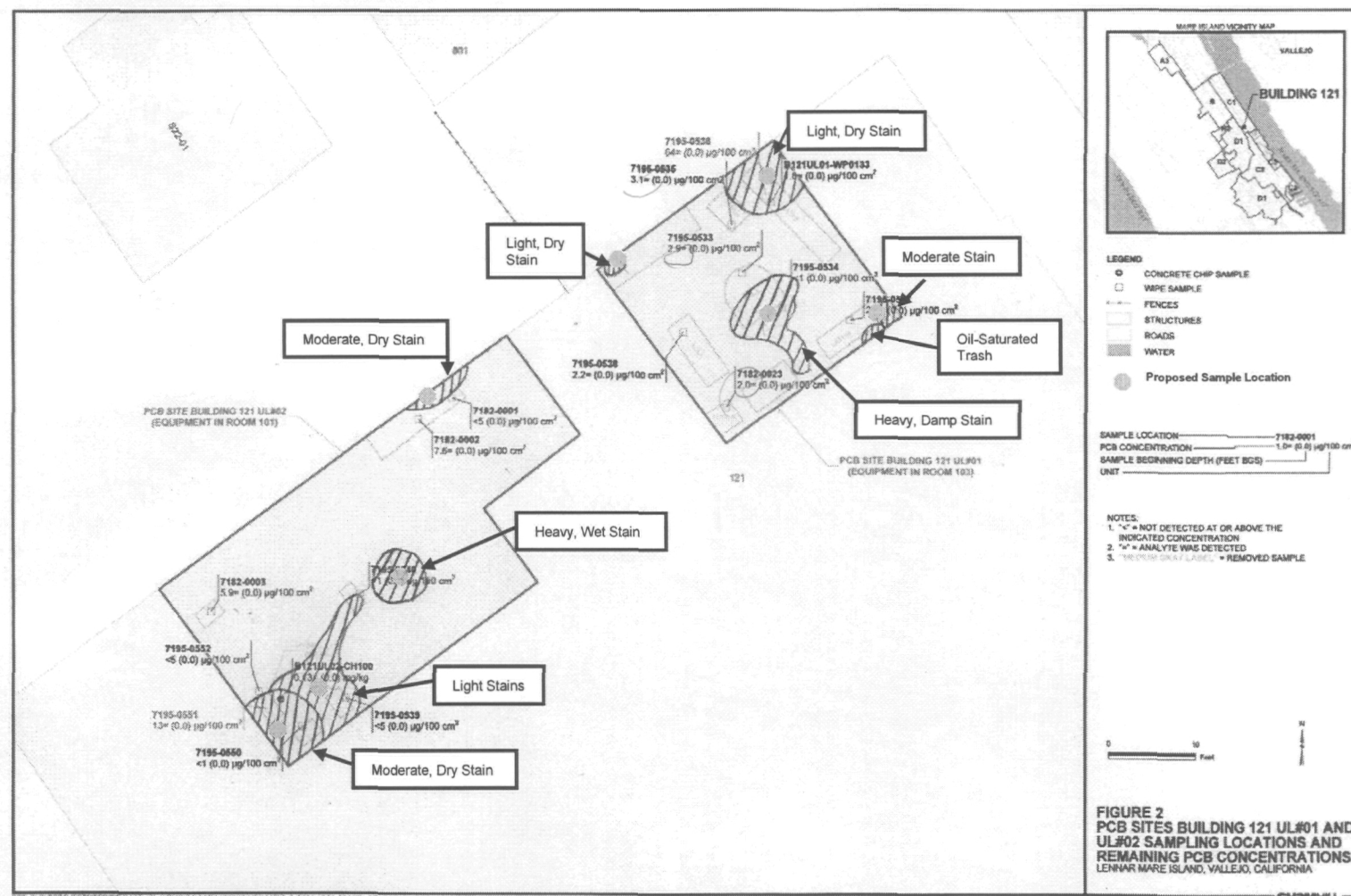
0 40
Feet



LEGEND

- ☒ CONCRETE CHIP SAMPLE
- ☒ OIL SAMPLE
- ☒ WIPE SAMPLE
- FENCE
- RAILROAD
- ROAD
- STRUCTURE
- ▭ SUBSURFACE PIT
- Approximate Location of Proposed Sample

FIGURE 1
PCB BUILDING 688 UL#02
PREVIOUS SAMPLE LOCATIONS
AND PCB CONCENTRATIONS
INVESTIGATION AREA C2
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA



equipment was removed

105

work to close under 8.62